

In the Drawings

Corrected drawing sheets are enclosed herewith.

REMARKS

This is a full and timely response to the outstanding non-final Office Action mailed March 17, 2005. Upon entry of the amendments in this response, claims 2-4 and 6-8 remain pending. In particular, Applicant has amended claims 1 and 5. Support for the limitations added by amendment can be found on page 17, lines 11-15 of the application, for example. Applicant submits that no new matter has been added. Reconsideration and allowance of the application and presently pending claims are respectfully requested.

In the Specification

The specification has been amended to accord with the reference characters on the replacement drawing sheets as discussed below. No new matter has been added.

In the Drawings

The Office Action indicates that the drawings are objected to as failing to comply with 37 CFR 1.84(p) (4) because reference characters "1," "2," "4," "5" and "6" have been used to designate both apparatus elements in Figure 2 and process steps in Figure 3. Additionally, the Office Action indicates that the drawings are objected to as failing to comply with 37 CFR 1.84(p) (5) because they include reference character 114 in Figure 1 and reference character 114, which are not mentioned in the description. In this regard, Applicants have provided corrected drawing sheets.

Please note that in the corrected drawing sheets, Figure 3 has been amended to designate the respective process steps by reference numerals 1a-7a, respectively. The specification has been amended to accord with the reference characters on the replacement drawing sheet. Therefore, it

is respectfully submitted that the replacement drawing sheets overcome the basis to the objection to the drawings for failure to comply with 37 CFR 1.84(p) (4). Additionally, Figure 1 has been amended to omit reference numeral 114. Therefore, Applicant respectfully submits that the objections have been accommodated.

Rejections under 35 U.S.C. 102(e)

The Office Action indicates that claims 1-8 stand rejected under 35 U.S.C 102(e) as being anticipated by *Kholodenko*. Additionally, the Office Action indicates that claims 1-4 stand rejected under 35 U.S.C 102(e) as being anticipated by *Lin*. Applicant respectfully traverses the rejections.

With respect to *Kholodenko*, *Kholodenko* teaches an electrostatic chuck comprising a heater. Specifically, *Kholodenko* teaches “an electrostatic chuck 55 comprising a heater 235 to heat a substrate 30” (*see Kholodenko* at col. 9, lines 54-57). However, *Kholodenko* does not teach that the electrostatic chuck is for pre-cleaning the trench and the via sidewalls of the wafer. Indeed, *Kholodenko* only teaches that the electrostatic chuck 55 comprising the heater 235 is used to heat a substrate 30. This is in direct contrast to the features recited in Applicant’s amended claim 1.

In this regard, Applicant has amended claim 1 to recite:

1. A pre-clean chamber, comprising:
a chamber having a chamber interior;
a wafer heating apparatus in said chamber interior for supporting and heating a wafer, comprising a trench and via sidewalls etched in a dielectric layer thereon, for pre-cleaning the trench and the via sidewalls of the wafer prior to disposition of a layer thereon; and
a source RF power supply operably engaging said chamber for applying source RF energy to said chamber.

(*Emphasis Added*).

Applicant respectfully asserts that *Kholodenko* is legally deficient for the purpose of anticipating amended claim 1. Specifically, Applicant respectfully asserts that *Kholodenko* does not teach or otherwise disclose at least the features/limitation emphasized above in claim 1. Therefore, Applicant respectfully requests that the rejection of claim 1 and its dependent claims 2 – 4 under *Kholodenko* be removed.

5. A pre-clean chamber, comprising:
a chamber having a chamber interior;
***a high-temperature electrostatic chuck in said chamber interior
for supporting and heating a wafer, comprising a trench and via
sidewalls etched in a dielectric layer thereon, for pre-cleaning the
trench and the via sidewalls of the wafer prior to disposition of a layer
thereon; and***
a source RF power supply operably engaging said chamber for
applying source RF energy to said chamber.

(*Emphasis Added*).

Applicant respectfully asserts that *Kholodenko* is legally deficient for the purpose of anticipating amended claim 5. Specifically, Applicant respectfully asserts that *Kholodenko* does not teach or otherwise disclose at least the features/limitation emphasized above in claim 5. Therefore, Applicant respectfully requests that the rejection of claim 5 and its dependent claims 6 - 8 under *Kholodenko* be removed.

With respect to *Lin*, *Lin* teaches an electrostatic chuck comprising a heat exchanger for either heating or cooling a wafer. Specifically, *Lin* teaches “an electrostatic chuck 28 comprising a heat exchanger 62 for either heating or cooling a wafer 14” (*see Lin* at col. 7, lines 20-22, 30-32, and 40-42). However, *Lin* does not teach or otherwise disclose the electrostatic chuck “for supporting and heating a wafer, comprising a trench and via sidewalls etched in a dielectric layer thereon, for pre-cleaning the trench and the via sidewalls of the wafer prior to disposition of a

layer thereon,” as recited in amended claim 1. Therefore, Applicant respectfully requests that the rejection of claim 1 and its dependent claims 2 – 4 under *Lin* be removed.

Rejections under 35 U.S.C. 103(a)

The Office Action indicates that claims 5-8 stand rejected under 35 U.S.C 103(a) as being anticipated by *Kholodenko* in view of *Lin*. Additionally, the Office Action indicates that claims 1-8 stand rejected under 35 U.S.C. 103(a) as being unpatentable over *Masterson* in view of *Kholodenko*. Applicant respectfully traverses the rejections.

In particular, Applicant respectfully asserts that none of the cited references teaches or reasonably suggests “a high-temperature electrostatic chuck for supporting and heating a wafer, comprising a trench and via sidewalls etched in a dielectric layer thereon, for pre-cleaning the trench and the via sidewalls of the wafer prior to disposition of a layer thereon,” as recited in claim 5. As discussed above, *Lin* teaches an electrostatic chuck comprising a heat exchanger for either heating or cooling a wafer, but fails to teach or suggest an electrostatic chuck “for supporting and heating a wafer, comprising a trench and via sidewalls etched in a dielectric layer thereon, for pre-cleaning the trench and the via sidewalls of the wafer prior to disposition of a layer thereon.” Likewise, *Kholodenko* teaches an electrostatic chuck comprising a heater, but fails to teach or suggest an electrostatic chuck “for supporting and heating a wafer, comprising a trench and via sidewalls etched in a dielectric layer thereon, for pre-cleaning the trench and the via sidewalls of the wafer prior to disposition of a layer thereon.” Accordingly, Applicant respectfully submits that the cited references, either alone or in combination, fail to render obvious the limitations recited in amended claim 5. Therefore, Applicant respectfully requests that the rejection of claim 5 and its dependent claims 6 - 8 be removed.

With respect to *Masterson*, Applicant respectfully asserts that *Masterson* does not teach or reasonably suggest at least the limitations described above in claims 1 and 5 as lacking in *Kholodenko*. Accordingly, Applicant respectfully submits that the cited references, either alone or in combination, fail to render obvious the limitations recited in amended claims 1 and 5. Therefore, Applicant respectfully requests that the rejection of claims 1 and 5, and their respective dependent claims 2 – 4 and 6 – 8, be removed.

Double Patenting

The Office Action indicates that claims 1-8 are rejected under the judicially created doctrine of obvious-type double patenting as being unpatentable over claims 2 and 3 of *Lin* in view of *Kholodenko*. Applicant respectfully traverses the rejection. In particular, Applicant respectfully submits that the cited references, either alone or in combination, fail to render obvious the limitations recited in amended claims 1 and 5, as described above. Therefore, Applicant respectfully requests that the rejection of claims 1 and 5, and their respective dependent claims 2 – 4 and 6 – 8, be removed.

Art Made of Record

The art made of record has been considered, but is not believed to affect the patentability of the presently pending claims.

CONCLUSION

In light of the foregoing amendments and for at least the reasons set forth above, Applicant respectfully submits that all objections and/or rejections have been traversed, rendered moot, and/or accommodated, and that the pending claims are in condition for allowance. Favorable reconsideration and allowance of the present application and all pending claims are hereby courteously requested. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney at (770) 933-9500.

No fee is believed to be due in connection with this amendment and response to Office Action. If, however, any fee is believed to be due, you are hereby authorized to charge any such fee to deposit account No. 20-0778.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read 'Daniel R. McClure', is written over a horizontal line.

Daniel R. McClure, Reg. No. 38,962

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